Calling All Life Science Entrepreneurs
Managing Stakeholders: A Change Primer

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ABSTRACT

Entrepreneurs, especially in the life sciences, often introduce disruptive changes but in ecosystems with no or poor sponsorship. While they often focus on the desirability of their innovations, they really need to approach socializing their work as a change management effort. This paper notes change concepts and models that can be used by life science (and other) entrepreneurs to more efficiently and effectively introduce their innovations to key stakeholders.

Keywords: Adoption, Behaviour's, Change Management, Entrepreneurial Change, Life Science Early Stage, Lifecycle, Sponsorship, Stakeholder Management.

Introduction

Entrepreneurs in life sciences, however technically proficient they may be, face unique stakeholder change challenges. No matter how important their invention, new ways of working mean changes in old ways that usually face major headwinds.

To start, whatever the innovation there can be life or death consequences, and this gives decision making a conservative bias. There also tends to be a wide range of stakeholder interests to manage and that can create cash flow problems if not managed in a timely manner. Finally, stakeholders who are engaged in the entrepreneur's early stage of work require close support and encouragement to make sure that initial experiences are positive. All of these are demanding tasks that the ablest inventor may struggle to manage successfully.

This paper addresses these challenges by reviewing a number of models and techniques life science (and other) entrepreneurs can use to be more efficient and successful in introducing their changes.

When Is This Important?

Change is a contact sport which is to say that entrepreneurs need to be not just inventive but also able to interact with a diverse range of stakeholders to gain support for their innovations. Figure 1 (Porter, 2012) describes activities entrepreneurs need to engage in when both proving their ideas and later, if they stay with their start-up, as they grow and evolve their business organizations. The change principles and techniques reviewed in this paper are focused on the *proving your idea change zone* to help entrepreneurs approach their engagement of stakeholders more purposely, with improved insight and greater efficiency. Further, investors, coaches and advocates are likely to find this information useful in their efforts to support the entrepreneur. And all will find this information useful in achieving business case results and eventually growing the business as well, though the latter is not explicitly addressed here.

Figure 1. Life Sciences Early Stage Lifecycle

The Business Case & Change

Life science entrepreneurs often approach the promotion of their changes by focusing on development of their innovation be it a technology, substance, or process. But while this is necessary it is rarely sufficient. Instead, when viewed through the lens of the business case, the promotion of any innovation actually has two dimensions to it. Where development typically just involves managing the technology and costs involved there is a second important dimension involving benefits realization that requires getting the implementation and any new behaviours right. Driving this requires a different set of skills.

Figure 2 depicts the business case and work that entrepreneurs must orchestrate as advocates for their innovation. Critically, the relationship between the costs and benefits involved is asymmetric.
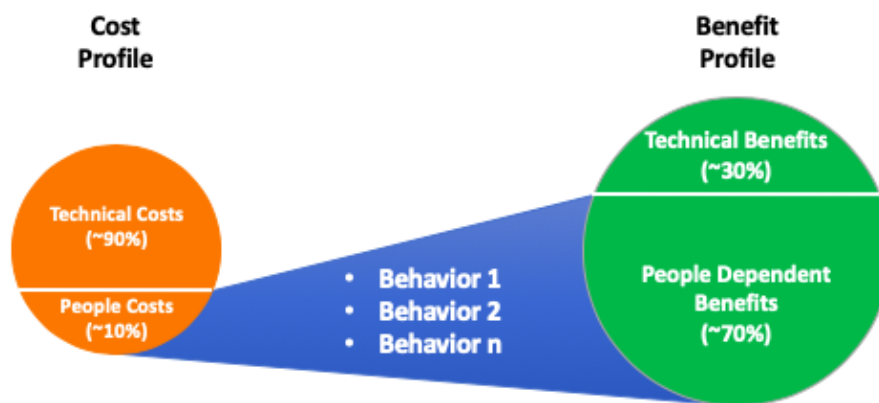

Figure 2. Business Case Change Elements

On the cost side is the technical work that must be done to prove the efficacy of the innovation. This will produce whatever designs and details are required to make the innovation real, and arguably is the work entrepreneurs most readily embrace. The technical costs are incurred doing whatever design or development work is required to complete the technology, substance or process. The people costs include whatever time (e.g., to engage and inform stakeholders, train users, etc.) or materials (e.g., a refereed paper, regulatory filings, etc.) are required to promote use of the invention.

Interestingly, the technical innovation itself, regardless of what it is, usually delivers substantially less of the benefits than the cost involved. For the majority of the benefits to be realized, most life science inventions require proper implementation and, with this, new behaviours. For example, you may develop a new gastroenterology surgical technique that can be done in an endoscopy suite, instead of the operating room, and require fewer nights in the hospital. Just these factors alone will generate savings and benefits. But all of this depends on the surgical technique being properly performed and insurers willingness to fund, to illustrate just a few potential behavior dependent benefits.

For the entrepreneur managing change requires both the development of their innovation, and the preparation key stakeholders for successful implementation experiences. This starts with the business case to help the entrepreneur understand the relationship between the technical and people dependent benefits and the implications for stakeholder management. A clear portrait of the costs, benefits and behaviours involved will also help make the case for change for those responsible for implementation.

Special Consideration: Organizational and Institutional Culture

When identifying behaviours needed to drive benefits some consideration should be given to habits (Duhigg, 2009) that may get in the way. If there are well accepted ways of doing things often referred to as organization or institutional culture that the innovation will challenge, the entrepreneur will want to think through the new ways of working that will be required and make sure these behaviours are explicit. Figure 3 provides a framework for thinking through potential cultural issues. The way to use this framework is to start at the center with a characterization of the widely accepted beliefs and attitudes.

Figure 3. Framing Paradigm Behavior Issues

These, in turn, should be considered in five behavioral dimensions. For habits, how do people routinely (i.e., habitually) act out on these beliefs and attitudes? Creating a checklist of specific steps and behaviours represents a useful way to surface old habits and frame new ways of doing things (Gawande, 2009). Then the entrepreneur should build this out further by making sure the following have been considered:

- how you may need to *translate* new ways of behaving to help people think about things differently from the old way of behaving (e.g., how will medical providers need to think about their work differently to focus on "outcomes achieved" instead of "services delivered");
- what social rituals or organizations may exist that could undermine the new way the entrepreneur seeks (e.g., Board Certification creates a professional allegiance to many old ways of working that may be difficult to overcome if not changed itself);
- in what ways the old way has become a matter of personal or professional identity (e.g., when catheterizations were introduced that cardiologists could do, cardiac surgeons lost not only their monopoly on heart related procedures but also an income stream); and
- since people rarely do new things well the first time, how can you reward achievement of the new way (i.e., indeed, especially since the entrepreneur may not have any way to influence how compensation is administered)?

While some of the barriers might be almost impossible to overcome, the entrepreneur can make headway by thinking through the barriers faced and framing these in terms of behavior changes that could serve at least as a start. For example, stakeholders can be "rewarded" by entrepreneurs recognizing their contributions in articles, interviews and professional events.

Stakeholder Identification

While the business case starts with the costs and benefits of an innovation, these are likely to evolve as more is understood about the interests and relationships among potential stakeholders. To set the stage to promote a change requires getting the right people involved and in the right ways. This, in turn, can most easily be done by examining stakeholders in three dimensions as depicted in Figure 4. The three dimensions involve selecting stakeholders from the right groups who have the right authority and getting them involved in the right way so as to make the best use of their capabilities and inclinations.


Figure 4. Stakeholder Planning Dimensions

The Ecosystem

Mapping out the ecosystem for an invention is always custom work. Figure 5 provides an illustration of the groups who might be involved in a life science innovation, but stakeholder groups will differ depending on the technology, process, or substance involved. For example, if the invention is a new drug, regulators and payers would have an obvious role where a new surgical procedure would involve hospital administrators, nurses and assistants, payers and regulators. The ecosystem map depends on what the invention is and where it is likely to be used.

Figure 5. Potential Life Sciences Innovation Ecosystem
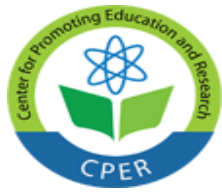
For any group in the ecosystem it makes sense to ask two questions. First, how important is the group to achieve acceptance of the invention? Even if a group, for example insurance companies, has little impact on early stage work involving the proof of concept or initial trials, the entrepreneur may want to engage with them to lay the foundation to expedite later funding. Second, what actions will need to be taken by stakeholders in the group to achieve the market potential of the innovation? For example, physicians would need to be aware of and confident in the efficacy of a new drug to prescribe it.

Once the ecosystem has been described, the next step is to identify who to engage with to gain eventual acceptance of the innovation.

Materiality

There are two aspects that determine how important an individual stakeholder is for an innovation depicted here in Figure 6 for a hospital. First, there is an external aspect that determines whether the organization or association will entertain use of the innovation. The critical roles here are the *buyers*, people who can authorize acquisition of the innovation, and the *influencers*, those in a position to encourage or discourage a buyer's decision. For each stakeholder group within the ecosystem entrepreneurs will find it useful to identify potential buyers for their innovation and any corresponding influencers. Please note that influencers are particularly important when first use is involved.

Figure 6. A View of Materiality in a Hospital

Second, are the internal facing roles of change sponsors and managers. These people are critical to getting people within the organization or association to actually use the innovation. *Sponsors* often have the authority to not just buy but also compel the use of innovations. Then there are *change managers* who are responsible for guiding others in their use of the innovation. A key responsibility of change managers is to help users build confidence and have successful experiences with the new way of working. In first use situations the entrepreneur may have to function as the change manager but longer term these will need to come from the organization or association itself.

While buyers do not necessarily need influencers, change sponsors always require change managers although the two internal facing roles can sometimes be combined. Also, entrepreneurs have a vital interest in the successful first use of their innovations and this may require that they take on the change manager role though this requires special permissions and communications to avoid confusing users (i.e., people know who their bosses are). Finally, note that while buyers/change sponsors are always associated with senior level positions, influencer/change manager roles may be performed at any level.

Adoption

Once the entrepreneur has established who is in the ecosystem for his/her innovation and who are in the most material roles, it is time to identify who are most likely to be able to help. While there are a number of personality

factors that could be considered the entrepreneur is likely to find the adoption profile of stakeholders to be most important.

Figure 7 below lays out the way adoption of any new technology or process is likely to unfold. Adoption (Rogers, 1962) typically starts with innovators, people who are quick to try new things and who are comfortable taking risks associated with using unproven things. While a person may be an innovator for some things and not for others, in the aggregate this will usually only be 2.5% of the stakeholder group. So out of 100 hospital administrators you might expect to find only 2 or 3 willing to experiment with something new.

Figure 7. Adoption Categories

Innovators have many personality characteristics entrepreneurs are likely to find helpful. They are, for example, naturally curious and personally motivated to make a difference in the world. They are also willing, if not eager, to share their insights and help improve inventions with which they work. Finally, and perhaps most importantly when promoting an invention, they are usually influential and well-regarded thought leaders.

Next there are early adopters. Members of this group can be characterized as fast followers and prudent risk takers, usually acting on the advice of innovators. As a result, it is very important that the entrepreneur pay close attention to the experience innovators have to make sure that inadvertent mistakes are not made in their initial use of the innovation. Here for most stakeholder groups early adopters will constitute only about 13.5% of the population, so of 100 hospital administrators only 13 or 14 may fall in this category.

Early adopters have themselves a number of characteristics entrepreneurs will value. They tend to be viewed by others as very competent in their field. They also tend to be very well connected and willing to share their experiences and those of innovators. But perhaps most importantly, when the risks involved are manageable, they are willing to commit time to prove the potential of an innovation.

The early majority and late majority groups will encompass about 34% of the stakeholders each, while laggards make up the residual 16%. These groups are of obvious importance for commercialization but will not typically be of much help for early stage start-ups due to their more conservative biases.

But how can an entrepreneur know what adoption category any individual stakeholder may fall into for an innovation? One way is to make presentations or have a booth at professional life science events and develop relationships with attendees most of whom are likely to be innovators or early adopters. Another would be through direct experience/observation or by consulting with investors or advisers to see who they know that may have these characteristics. But regardless how the innovators or early adopters are identified, it is useful to validate how much information they require and from whom to take up the innovation. A particularly distinguishing characteristics: early adopters are likely to want innovators or persons other than the entrepreneur to provide information in order to make risk taking more prudent.

Managing Change

Change is a process that in its most simple form involves three basic stages as depicted in Figure 8, endings, a transition, and beginnings (Bridges, 1991). Endings are important since failing to let go of the old way of doing things is a major barrier to change. Transitions mark the period of making adjustments to prepare to do things differently, like training. And beginnings involve finally engaging fully with the new way of working.
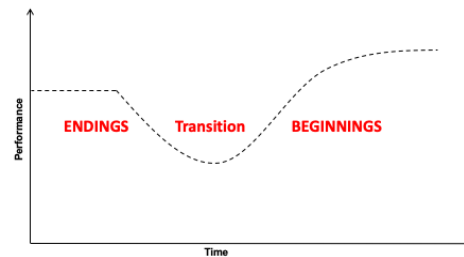
Figure 8. Basic Change Stages

As elegant as this basic model is, however, the change process actually involves four to five basic steps irrespective of change reactions. These and the impact each may have on performance are depicted in Figure 9. Please note that these steps are sequential, each depending on the step immediately preceding it. So, a person must be aware of a possible change before they can come to comprehend what might be involved, including the impacts on them personally, and they must grasp all of this before they are likely to take appropriate and meaningful action. Likewise, it is impossible to accept a change without having had some experience with it. Finally, commitment without experience and acceptance is impossible, i.e., it would be comparable to talking the talk but without walking the walk and hence likely to be seen as disingenuous.
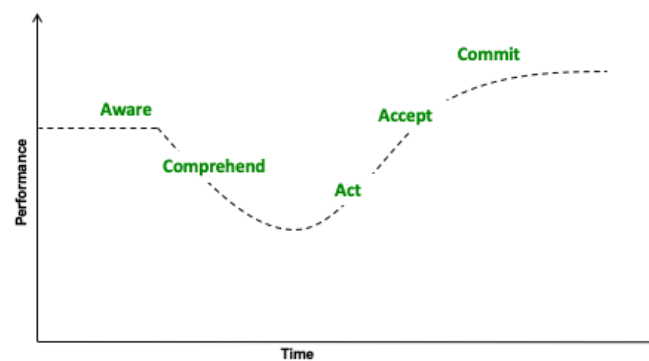

Figure 9. Change Process Steps

Please note that people value losses approximately twice as much as gains (Kahneman, 2011) which makes resistance likely and managing comprehension especially challenging. Consider as an example, when the use of radioactive seeds was first introduced to treat breast cancer. Even though this treatment modality damages less tissue, hospitals with an investment in the prior technologies might have been hesitant to accept the new practice and the attendant loss of their investments in in technologies used in the old way of treating breast cancer patients. One strategy for potentially overcoming this might involve getting philanthropic investment to offset any near-term losses.

Managing change then involves helping people move from one step of the process to the next and cope with emotional losses experienced along the way. Change as a contact sport requires open discussions of potential losses to help people move through the change process. For example, once people are aware of a change, you can help them comprehend what is involved through discussions, demonstrations, and other means, including start/stop/continue information to clarify what must end and what must stay the same (Bridges, 1991). Doing so in the context of the business case for change is helpful to demonstrate how losses and gains are offset. This is particularly important for innovators and early adopters because others will look to them for their opinions and evidence on this.

The change process, however, can get tricky for innovators and early adopters because the steps can merge. This helps explain why they are quicker to adopt change but it requires the entrepreneur be prepared to engage with them in different and more personal ways.

Innovators

Figure 10 describes how innovators experience change. For them awareness, when of interest to them, is very quickly followed by an urge for action, and there is little distance between comprehension and action; in fact, they are likely to build their comprehension precisely by acting. Likewise, there is little distance between adoption and commitment meaning that when they have favourable experiences they tend to go "all in" and may get quite enthusiastic. Of course, this assumes that their experiences have been positive.
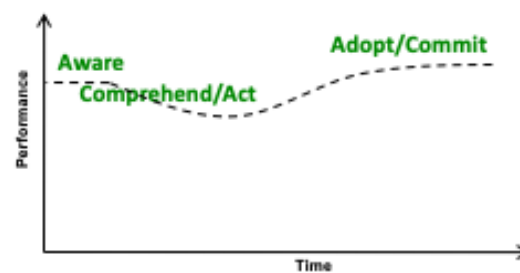

Figure 10. Innovator Change Process

In part because of their natural enthusiasm for new things, managing change for innovators means keeping them under control. Because you want them to have positive experiences and avoid damaging mistakes, it is important that the entrepreneur remain close to innovators during periods of early use. This may mean directly observing their work and coaching them. Because they are so well regarded, it is also important to also influence their messaging, e.g., by jointly developing studies and journal articles as opportunities to work out how experiences should be characterized and explained to others. Finally, because they are often eager to contribute their insights, it is useful to form pacesetter groups where innovators can share their experiences and help the entrepreneur workout any problems. In fact, pacesetter groups can provide collaborative environments where problems actually become learning opportunities for innovators. An entrepreneur may want pacesetter groups for each of the major stakeholder groups in the invention's ecosystem.

The way the Lamaze childbirth technique became popularized in the US provides a useful illustration of how powerful pacesetter groups can be. Back around 1959 the American Society for Psycho prophylaxis in Obstetrics was formed to help educate expectant mothers and certify those offering "natural childbirth" services. Today such services are ubiquitous, in part as a result of the early pacesetters. In the words of Charles Duhigg, author of *The Power of Habit*, about pacesetter groups: "Movements don't emerge because everyone suddenly decides to face the same direction at once. They rely on social patterns that begin as the habits of friendship, grow through the habits of communities, and are sustained by new habits that change participants' sense of self" (Duhigg, 2012).

Early Adopters

Figure 11 depicts how early adopters tend to experience change. Please note that here awareness, comprehension and action are separate steps and due in part to the desire to take prudent risks, comprehending really means coming to terms with potential endings. In this way, early adopters help to socialize innovations. Then once successful action is taken, there is little space between adoption and commitment for the early adopter.
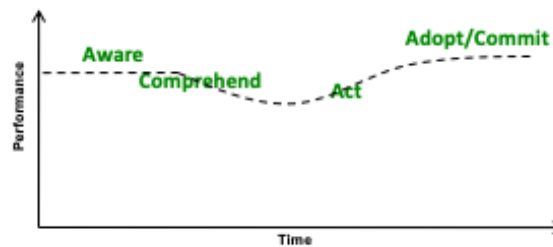
Figure 11. Early Adopter Change Process

Early Adopters will need to comprehend key factors involved in an innovation before taking action, especially when risks to patients and/or their personal reputations are involved. Still, a successful experience is likely to create a strong sense of commitment that will encourage broader adoption. In working with early adopters, entrepreneurs can accelerate change by bringing them together with innovators, e.g., by sponsoring booths or presentations at professional conferences or other special events. Early adopters also typically have very complex social networks, so providing them studies and evidence can be very helpful when early stage innovations have to be socialized with payers and other key players. Finally, beware of engaging early adopters who are too busy with other things. Too much stress will constrain learning – in the words of Daniel Goleman, "stress makes people stupid" (Goleman, 1995) which would undermine the contributions early adopters could otherwise make in socializing an innovation.

Here it is instructive to consider how the per oral esophageal myotomy (POEM) has come into more common use. The POEM was developed around 2008 in Japan as a less invasive alternative to the laparoscopic Heller myotomy i.e., in contrast, the POEM is done in an endoscopy suite with a milder anesthetic, so recovery is quicker, hospital stays are shorter, and the overall procedure is much less expensive. Even so, it took several years for the procedure to be adopted in the US and even then, most payers routinely denied coverage. The way proponents made progress was by providing early adopters with studies and encouraging them to coordinate with their patients to lodge appeals for coverage. Indeed, written patient requests proved very important as did leveraging what longitudinal studies and innovator testimonials existed at the time.

Putting It All Together A Blueprint

The purpose of this paper has been to lay out key principles and techniques life science (and other) entrepreneurs can use to approach change more effectively and efficiently. The major steps involved, which should be coordinated with investors and advisers, can be summarized as follows.

Planning for Change
- ☐ Summarize the costs and benefits expected from the innovation in a Case for Change
- ☐ Identify the key behaviors driving the benefits, including new ways of working, thinking and feeling required
- ☐ Map out the ecosystem for the innovation
- ☐ Note which roles in the ecosystem are most material
- ☐ Develop, as a hypothesis, a list of two to five innovators and five to ten early adopters
- ☐ Confirm at least two innovators and five early adopters from the hypothetical list

Engaging Innovators
- ☐ Develop an end use vision, re: Case for Change
- ☐ Create a communications strategy to inform innovators, including studies and events
- ☐ Form a pacesetter group(s) and invite innovators to participate
- ☐ Arrange one-on-one coaching during first use

☐ Vet messaging on first use with pacesetter group(s) and develop a communications plan

Engaging Early Adopters

☐ Create a communications and training strategy for early adopters
☐ Work with pacesetter group(s) to recruit early adopters and provide performance coaches
☐ Inform/train early adopters and involve them in using the innovation with a performance coach
☐ Conduct focus groups with early adopters to refine performance and messaging
☐ Prepare commercialization strategy and next steps

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